

**ABSTRACT OF THE DISCLOSURE**

[0292] Methods and apparatus are described for an optical fan-out and broadcast interconnect. A method includes operating an optical fan-out and broadcast interconnect including: fanning-out an optical signal from an optical signal emitter, of one of a plurality of nodes, with a diverging element of one of a plurality of optics; and broadcasting the optical signal to one of a plurality of receivers of all of the plurality of nodes with a light collecting and focusing element of all of the plurality of optics, wherein the plurality of optics are positioned to define an optics array, the plurality of receivers are positioned to define a receiver array that corresponds to the optics array and the plurality of nodes are positioned to define a node array that substantially corresponds to the receiver array and the optics array.